



EXPLANATORY NOTE & ANALYSIS

Draft

**“2020 Code of Practice
For the
Chemical Agent & Carcinogens Regulations”**

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Foreword

The Health and Safety Authority has prepared this Explanatory Note & Analysis document to support the proposed draft “2020 Code of Practice for the Chemical Agent & Carcinogens Regulations”.

The ‘Chemical Agent Regulations’ means the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001 (S.I. No. 619 of 2001), as amended by S.I. No. 623/2015 - Safety, Health and Welfare at Work (Chemical Agents) (Amendment) Regulations 2015. The “Carcinogens Regulations” means the Safety, Health and Welfare at Work (Carcinogens) Regulations, 2001 (S.I. No. 78 of 2001), as amended by S.I. No. 622/2015- Safety, Health and Welfare at Work (Carcinogens) (Amendment) Regulations, 2015.

This Explanatory Note & Analysis outlines the options, cost, benefits, impacts and the consultation requirements and the arrangements in publishing this updated Code of Practice.

1.0 Background and Context

Occupational exposure limit values (OELVs) provide a basis for ensuring that exposure to airborne contaminants in the workplace are controlled in such a way as to prevent adverse health effects.

The purpose of the 2020 Code of Practice is to provide practical guidance as to the observance of the requirements of the Chemical Agent and Carcinogen Regulations (as amended), in relation to occupational exposure limit values (OELVs) for a number of chemical agents as listed in Schedule 1 and Schedule 2 to the Code.

The 2020 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) & (Carcinogens) Regulations 2001:

- updates and replaces the “2018 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001 (S.I. No. 619 of 2001)”, based on the latest available relevant scientific information, and
- fulfils the commitment as stated in the foreword of the 2018 Code of Practice to update the Code of Practice periodically, where appropriate.

The draft 2020 Code of Practice includes the following updates /amendments:

- **Schedule 1** in the Draft Code now lists EU binding and indicative occupational exposure values only. It has been updated to include new Binding OELVs following amendments to the Carcinogens and Mutagens Directive (CMD) by
 - EU Directive [2017/2398](#) (CMD Wave 1-See Appendix 1-Table 1) has a transposition date of 17th January, 2020

- EU Directive [2019/130](#) (CMD Wave 2 -See Appendix 1-Table 2) has a transposition date of 16th January, 2021 but this proposal will introduce the binding limit values by January 2020. This would have the advantage of avoiding another update to the Code of Practice in 2020.
- **Schedule 2** in the Draft Code now contains an **advisory list of OELVs** derived from sources other than EU Commission Directives such as Threshold Limit Values (TLVs) from the US limit setting body ACGIH. This is a key change from previous Codes of Practice. Previously these were combined with Limit values from EU Directives and no differentiation was made. All updates included in Schedule 2 of the 2020 Code of Practice are in bold for ease of reference. As stated in the Draft 2020 Code of Practice, where an Advisory OELV is applicable an employer should take all reasonably practicable measures to comply with the Advisory OELVs. This new concept of Advisory OELVs allows for a more pragmatic compliance approach and the opportunity to assess their practical implementation at the workplace, thus informing future EU Commission scientific discussions where EU limit values are being considered for the same substance.
- **Schedule 3** has been updated to include possible changes to current OELV values and new entrants for the next iteration of the Code of Practice. It provides a list of any OELVs which are under review by the Health & Safety Authority. It includes limits from EU Directive [2019/983](#) (CMD Wave 3-See Appendix 1- Table 3) with transitional measures in place for 4 of the 5 substances. Also included is the EU 5th list of IOELVs due for publication later this year (See Appendix 1 – Table 4).
- **Schedule 4** – contains the Chemical Abstracts Service (CAS) Numbers Index.
- **Errata** from the 2018 Code of Practice have been addressed (see Appendix 1, Table 4)

2.0 Objectives of the Code of Practice

Overall objective:

To publish an up-dated Code of Practice to provide a comprehensive schedule of OELVs based on current scientific knowledge for employers to ensure that necessary protective measures are in place to secure the safety, health and welfare of employees.

Immediate objectives:

- ❖ To update the 2018 Code of Practice based on the latest available relevant scientific information,

- ❖ To fulfil the commitment as stated in the foreword of the 2018 Code of Practice to update the document.
- ❖ To transpose EU Directives 2017/2398 and 2019/130.

3.0 Options

Option 1

Do Nothing: By not updating the Code of Practice, the 2018 Code of Practice will contain out of date OELVs for some chemical agents and our transposition requirements for the CMD amendments and IOELV lists will not be met.

Option 2

Publish the Code of Practice:

By publishing an updated Code of Practice the 2020 Code of Practice will contain the most up to date OELVs for chemical agents, based on the latest available relevant scientific information and comply with transposition requirements for member states.

4.0 Costs, Benefits and Impacts

4.1 General Costs

The Code of Practice will be published on the Health and Safety Authority's website. Combined publication costs to the Authority are estimated not to exceed €2,000. A minimum number of copies will be printed, as most customers consult the document on the Authority's website.

Extra enforcement costs are not anticipated. No additional staffing or capital investment is envisaged as a result of the operation of the new Code of Practice.

4.2 Direct Compliance Costs

Industries using chemical agents listed in bold in Schedules 1 & 2 (proposed change of occupational exposure limit values) may possibly, in some cases, be obliged to enhance control measures to comply with the advice given in the Code of Practice. Improvement in containment, engineering controls or personal protective equipment (PPE) costs may be necessary for some industries to satisfy some requirements of the Code.

4.3 Benefits of Each Option

Option 1: Do Nothing:-This option would be regarded as having no benefit to any of the parties involved as it implies continuing to use outdated occupational exposure limits (OELVs) and will not fully support the need to protect the health of employees.

Option 2: Publish the Code of Practice: By updating the Code of Practice, the 2020 Code of Practice will contain the most up to date OELVs for chemical agents.

4.4 Other Impacts

(a) Impacts on National Competitiveness

The updated elements of the code of practice are based on international and European standards and are not expected to have a significant adverse effect on national stakeholders.

(b) Impacts on Socially Excluded or Vulnerable Groups

No adverse impact.

(c) Human Health and Environmental Issues

No adverse human health or environmental issues.

(d) Impacts upon Consumers and Competition

No impacts on consumers and competition.

(e) Impacts on the Rights of Citizens

No impact on the rights of citizens.

(f) Compliance Burdens

Compliance costs, in terms of improvement of containment, additional engineering controls or personal protective equipment (PPE), should not be significant from the point of view of their proportionality and distribution. There should be no increased compliance costs for the Authority.

4.5 Preferred Option

Option 2 – To publish an updated replacement Code of Practice – will produce a cohesive update of all national occupational exposure limit values, readily accessible in one document and without excessive cost.

5.0 Consultation

Public consultation in the form of publication of a draft Code of Practice on the Authority's website, seeking submissions, as well as direct contact with key stakeholders was undertaken in line with the Authority's standard practice for public consultation, in accordance with Section 60(2) of the Safety, Health and Welfare at Work Act 2005.

6.0 Enforcement and Compliance

The Health and Safety Authority will continue to enforce the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001 (S.I. No. 619 of 2001), and the Safety, Health and Welfare at Work (Carcinogens) Regulations 2001 (S.I. No 78 of 2001) as amended, on which the draft Code of Practice gives practical guidance and observance. The use of the Code of Practice may be assessed during inspections of workplaces where chemical agents mentioned in the Code of Practice are used.

7.0 Review

It is the Authority's intention that the proposed Code of Practice will be reviewed and updated periodically to reflect current knowledge concerning the health hazards of chemical agents.

APPENDIX 1

CMD¹ Amendments 1, 2 & 3, 5th IOELV list and 2018 COP errata.

| Table 1: CMD Amendment 1 EU Directive 2017/2398² (to be transposed in Schedule 1 of COP) | | | | |
|--|-------------------|--|---|---|
| <i>Substance</i> | <i>CAS Number</i> | <i>BOELV</i> a) 8 hr OELV b) STEL c) Skin Notation | <i>Existing OELV & Notations</i> a) 8 hr OELV b) STEL c) Skin Notation | <i>Proposed change in 2020 CoP</i> |
| Acrylamide | 79-06-1 | a) 0.1mg/m ³ b) None c) Skin | a) 0.03mg/m ³ b) None c) Skin | Adopt BOELV and note |
| Benzene | 71-43-2 | a) 3.25mg/m ³ /1ppm b) None c) Skin | a) 3mg/m ³ /1ppm b) None c) Skin | Adopt BOELV, minor change to 8hr OELV |
| Bromoethylene | 593-60-2 | a) 4.4mg/m ³ /1ppm b) None c) None | a) 2.2mg/m ³ /0.5ppm b) None c) None | Adopt BOELV, increase in 8hr OELV |
| 1,3-Butadiene | 106-99-0 | a) 2.2mg/m ³ /1ppm b) None c) None | a) 2.2mg/m ³ /0.5ppm b) None c) None | Adopt BOELV notation, no change to 8hr OELV |
| Chromium (VI) compounds (as | - | a) 0.005mg/m ³ [0.010mg/m ³ until Jan 2025; 0.025mg/m ³ until Jan | a) 0.05mg/m ³ [water-soluble] 0.01mg/m ³ | Adopt BOELV, reduction in 8hr OELV on a |

¹ Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work.

² OJ No. L345, 27.12.2017, p.87

| | | | | |
|------------------------------------|----------|---|---|--|
| chromium) | | 2025 for welding/processes that generate fume] b) None c) None | [insoluble] b) None c) None | transitional basis |
| 1,2-Epoxypropane | 75-56-9 | a) 2.4mg/m ³ /1ppm b) None c) None | a) 2ppm proposed in 2016 b) None c) None | Adopt BOELV, reduce 8hr OELV. |
| Ethylene oxide | 75-21-8 | a) 1.8mg/m ³ /1ppm b) None c) Skin | a)1ppm proposed in 2016 b) None c) None | Adopt BOELV and skin notation no change required to 8hr OELV |
| Hardwood dusts | - | a) 2mg/m ³ [3mg/m ³ until Jan 2023] b) None c) None | a) 5mg/m ³ b) None c) None | Adopt BOELV on a transitional basis |
| Hydrazine | 302-01-2 | a) 0.013mg/m ³ /0.01ppm b) None c) Skin | a) 0.01mg/m ³ /0.01ppm b) None c) Skin | Adopt BOELV notation, minor change o 8hr OELV |
| 2-Nitropropane | 79-46-9 | a) 18mg/m ³ /5ppm b) None c) None | a) 18mg/m ³ /5ppm b) None c) None | Adopt BOELV notation, no change to 8hr OELV |
| Refractory ceramic fibres | - | a) 0.3 fibres/ml b) None c) None | a) 1 fibre/ml b) None c) None | Adopt BOELV, reduce 8hr OELV |
| Respirable crystalline silica dust | - | a) 0.1mg/m ³ b) None c) None | a) 0.1mg/m ³ b) None c) None | Adopt BOELV, no change required |
| o-Toluidine | 95-53-4 | a) 0.5mg/m ³ /0.1ppm | a) 0.9mg/m ³ /0.2ppm | Adopt BOELV, |

| | | | | |
|------------------------|---------|---|--|---------------------------------|
| | | b) None c) Skin | b) None c) Skin | reduce 8hr OELV |
| Vinyl chloride monomer | 75-01-4 | a) 2.6mg/m ³ /1ppm b) None c) None | a) 7.77mg/m ³ /3ppm b) None c) None | Adopt BOELV, reduce 8hr OELV |

**Table 2: CMD Amendment 2: EU Directive 2019/130³
(to be transposed in Schedule 1 of the Code of Practice)**

| Substance | CAS Number | BOELV <i>d) 8 hr OELV</i> <i>e) STEL</i> <i>f) Skin Notation</i> | Existing OELV & Notations <i>d) 8 hr OELV</i> <i>e) STEL</i> <i>f) Skin Notation</i> | Proposed change in 2020 CoP |
|--|-------------------|--|--|-------------------------------------|
| Trichloroethylene | 79-01-6 | a) 10ppm/54.7mg/m ³ b) 30ppm/164.1mg/m ³ c) Skin | a) 10ppm b) 25ppm c) Skin | Adopt BOELV, increase existing STEL |
| 4,4'-Methylenedianiline | 101-77-9 | a) 0.08mg/m ³ b) None c) Skin | a) 0.1ppm b) None c) Skin | Adopt BOELV, decrease existing OELV |
| Ethylene dichloride | 107-06-2 | a) 2ppm/8.2mg/m ³ b) None c) Skin | a) 5ppm/20mg/m ³ b) 10ppm/40mg/m ³ c) None | Adopt BOELV, increase existing OELV |
| Diesel engine exhaust emissions | - | a) 0.05mg/m ³ (*) [The limit value shall apply from 21 Feb 2023. For underground mining and tunnel construction the limit value shall apply from 21 Feb 2026] b) None c) None | a) None b) None c) None | *Measured as elemental carbon |
| Polycyclic aromatic hydrocarbons mixtures, | - | a) None b) None | a) None b) None | |

³ OJ No. L30/112, 31.01.2019, p.112-120

| | | | | |
|---|---|-------------------------------|-------------------------------|--|
| particularly those containing benzo[α]pyrene | | c) Skin | c) None | |
| Mineral oils that have been used before in internal combustion engines to lubricate and cool the moving parts within the engine | - | a) None b) None c) Skin | a) None b) None c) None | |

**Table 3: CMD Amendment 3: EU Directive 2019/983⁴
(To be included in Schedule 3 (Intended Changes) of the Code of Practice)**

| <i>Substance</i> | <i>CAS No</i> | <i>BOELV</i> a) <i>8 hr OELV</i> b) <i>STEL</i> c) <i>Skin Notation</i> | <i>Existing OELV & Notations</i> a) <i>8 hr OELV</i> b) <i>STEL</i> c) <i>Skin Notation</i> | <i>Proposed change in 2020 CoP</i> |
|--|---------------|--|--|------------------------------------|
| Arsenic acid and its salts, as well as inorganic arsenic compounds | - | a) 0.01mg/m ³ (I) [For copper smelting sector, the limit value shall apply from 11 July 2023] b) None c) None | a) 0.01mg/m ³ b) None c) None | Adopt as BOELV |
| Beryllium and inorganic beryllium compounds | - | a) 0.0002mg/m ³ [Limit value 0.0006mg/m ³ until 11 July 2026] b) None c) Skin | a) 0.0002mg/m ³ b) None c) Skin | Adopt as BOELV |
| Cadmium and its inorganic compounds | - | a) 0.001mg/m ³ (I) [Limit value 0.004mg/m ³ until 11 July 2027] b) None c) None | a) 0.01mg/m ³ ; 0.002mg/m ³ (R) b) None c) None | Adopt as BOELV |
| Formaldehyde | 50-00-00 | a) 0.37mg/m ³ /0.3ppm [Limit value of 0.62mg/m ³ /0.5ppm for the health care, funeral and embalming sectors until 11 July 2024] b) 0.74mg/m ³ /0.6ppm c) None | a) 0.2ppm b) 0.4ppm c) None | Adopt as BOELV |
| 4,4'-Methylene-bis(2-chloroaniline) | 101-14-4 | a) 0.01mg/m ³ b) None c) Skin | a) 0.01ppm/0.1mg/m ³ b) None c) Skin | Adopt as BOELV |

⁴ OJ L164, 20.06.2019, p.23-29

**Table 4: 5th IOELV list
(to be included in Schedule 3 (intended changes) of the Code of Practice)**

| EC No | CAS No | Name of chemical agent | Limit values proposed | | | | Notation | Current limit values-CoP 2018 | | | | Notation | % Change |
|-----------|----------|--------------------------|-----------------------|-----|-------------------|-----|----------|-------------------------------|-----|-------------------|-----|-----------|---|
| | | | 8 hour | | Short-term | | | 8 hour | | Short-term | | | |
| | | | mg/m ³ | ppm | mg/m ³ | ppm | | mg/m ³ | ppm | mg/m ³ | ppm | | |
| 200-539-3 | 62-53-3 | Aniline | 7.74 | 2 | 19.35 | 5 | skin | 3.8 | 1 | - | - | Sk, Sens | 50% increase in OELV, new STEL |
| 200-817-4 | 74-87-3 | Chloromethane | 42 | 20 | - | - | - | 105 | 50 | 210 | 100 | - | 60% decrease in OELV, remove STEL |
| 200-875-0 | 75-50-3 | Trimethylamine | 4.9 | 2 | 12.5 | 5 | - | - | 5 | - | - | - | 60% decrease in OELV, new STEL |
| 202-704-5 | 98-82-8 | 2-Phenylpropane (Cumene) | 50 | 10 | 250 | 50 | skin | 100 | 20 | 250 | 50 | Sk, IOELV | 50% decrease in OELV, STEL remaining same |
| 203-300-1 | 105-46-4 | sec-Butyl acetate | 241 | 50 | 723 | 150 | - | - | 200 | - | - | - | 75% decrease |

| | | | | | | | | | | | | | |
|-----------|------------|------------------------|-------|------|------|------|------|-----|-----|-----|-----|----|--|
| | | | | | | | | | | | | | in OELV, new STEL |
| 203-403-1 | 106-49-0 | 4-aminotoluene | 4.46 | 1 | 8.92 | 2 | skin | 0.9 | 0.2 | - | - | Sk | 80% increase in OELV, new STEL |
| 203-745-1 | 110-19-0 | Isobutyl acetate | 241 | 50 | 723 | 150 | - | 700 | 150 | - | - | - | 67% decrease in OELV, new STEL |
| 204-633-5 | 123-51-3 | Isoamyl alcohol | 18 | 5 | 37 | 10 | - | 360 | 100 | 450 | 125 | - | 95% decrease in OELV, 92% decrease in STEL |
| 204-658-1 | 123-86-4 | n-Butyl acetate | 241 | 50 | 723 | 150 | - | 710 | 150 | 950 | 200 | - | 67% decrease in OELV, 25% decrease in STEL |
| 233-046-7 | 10025-87-3 | Phosphoryl trichloride | 0.064 | 0.01 | 0.13 | 0.02 | - | - | 0.1 | - | - | - | 90% decrease in OELV, new STEL |

Table 5: Errata from the 2018 Code of Practice Amended

| Table 5: Errata from the 2018 Code of Practice Amended | | |
|--|---|--|
| Hexachloroethane vapour | Align figures correctly | |
| Phthalic anhydride | Remove STEL | |
| Methylstyrene | Include decimal point in STEL mg/m ³ | |
| Molybdenum compounds (as Mo) Soluble compounds Insoluble compounds | Align figures correctly | |

